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THE PERSISTENCY OF BRANCHES ON YOUNG GROWTH PONDEROSA PINE

Objective: To determine the number of years ponderosa pine branches will persist on the tree after they die and evaluate the following relationships:

1. Aspect to
   a. persistence of dead limbs
   b. length of green crown
   c. height of lowest dead limbs
   d. height of lowest green limbs
   e. size of limbs
   f. diameter growth
   g. number of whorls in first 17 feet
2. Spacing to
   a. persistence of dead limbs
   b. size of limbs
   c. Percent of green crown

Purpose: A study in connection with pruning experiments

Method: In Slaughter House Gulch select 50 trees in a closed stand by random selection; 25 near thinning plots and 25 on the bench. These trees should be dominant or codominant. This should also be done for 50 trees on the south slope. Record for each tree

   a. DBH
   b. total height
   c. height of dead branches
   d. total age at 1', 5', 9', 17'
   e. Age of limbs at 1', 5', 9', 17'
   f. number of limbs at 1', 5', 9', 17'

g. diameter of limbs at 1', 5', 9', 17'

h. number of years limbs dead at 1', 5', 9', 17'

i. number of years to grow last inch of radius

j. distances to 3 nearest competing trees

k. crown class

l. number of whorls to 17'.

The age of the branch is determined by counting its rings and boring the tree at the internode height or above the branch.

Analysis:

1. Find basal area by species
2. Average DBH by basal area. Use both species together.
3. Number of trees per A.
4. Normality percentage from normal stand table and curve.
5. Figure age. Find average age. Add to breast height 8-14 yrs.
6. Find average height of dominant and codominants.
7. Determine site class from site curve.
8. Figure total volume taking dominant and codominants

   (a) Height curve

   From measured trees

   Averages of various elements of measured trees

   Figure of height to green limbs

   Same for clear ht.

   Figure percent of dead height from average clear height, etc.

Pruning Study

(1) $\dfrac{\left(\sum_{1}^{90} i\right)^2}{90} = CT$

(2) $\sum_{1}^{90} (i)^2 - CT = \Sigma \square$'s Total

(3) $\dfrac{\left[\left(\sum_{1}^{30} i_s\right)^2 + \left(\sum_{1}^{30} i_n\right)^2 + \left(\sum_{1}^{30} i_f\right)^2\right]}{30} - CT = \Sigma \square$'s

Between aspects

(4) $\sum_{1}^{90} (i)^2 - \sum_{1}^{30} \dfrac{\left[(\Sigma i_s)^2 + \cdots \left(\sum_{1}^{30} i_F\right)^2\right]}{30} = \Sigma \square$'s

Within